

(19)



JAPANESE PATENT OFFICE

**PATENT ABSTRACTS OF JAPAN**

(11) Publication number: **11211999 A**

(43) Date of publication of application: **06.08.1999**

(51) Int. Cl. **G02B 26/02**

**G09F 9/30**

(21) Application number: **10015520**

(22) Date of filing: **28.01.1998**

(71) Applicant: **TEIJIN LTD**

(72) Inventor: **KIN TATSUICHIRO**  
**YATABE TOSHIAKI**

**(54) OPTICAL MODULATING ELEMENT AND  
DISPLAY DEVICE**

**(57) Abstract:**

**PROBLEM TO BE SOLVED:** To provide a novel optical modulating element and a display device for which no polarizing plate is used.

**SOLUTION:** This device is composed of two substrates, one of which is transparent at least, arranged while being opposed and a supporting structure for supporting both the substrates and has a cell hav-

ing the void layer with thickness from 0.05 to 20  $\mu\text{m}$  and an outer means capable of changing the thickness of this void layer. Then, this optical modulating element changes the spectrum pattern of light transmitted through or reflected on the cell based on the interference effect of reflected light on two interfaces of the said void layer and both the substrates, and the display device arranges these optical modulating elements in the shape of one-dimensional array or two-dimensional matrix.

**COPYRIGHT:** (C)1999,JPO